

REMARKS

I. Status

Claims 1-13 and 15 are pending in the present application. Please replace the pending claims with the enclosed set of claims. A marked-up version of claims is attached hereto. Claims 1 and 7 have been amended and no claims are added.

No new matter has been introduced by these amendments. Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

II. Claim Rejections

a) 35 U.S.C. § 112, Second Paragraph

Claims 1-13 and 15 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants respectfully traverse. Claim 1 has been amended to recite "A styrenic thermoplastics composition comprising 0.5-20 parts by weight of an acrylic rubber-modified copolymer having a rubber particle size ranging from 800 to 6,000 Å, comprising; 5 - 15 parts by weight of a seed polymerized from an alkyl acrylate; 45-75 parts by weight of a core polymerized from an alkyl acrylate (excluding seed); and...." Claim 7 has been amended to recite "An acrylic rubber-modified copolymer having a rubber particle size ranging from 800 to 6,000 Å, comprising: 5 - 15 parts by weight of a seed polymerized from an alkyl acrylate; 45-75 parts by weight of a core polymerized from an alkyl acrylate (excluding seed); and 10-50 parts by weight of a shell polymerized from an alkyl methacrylate and/or an alkyl acrylate." Without conceding the Examiners position or the need for amendment applicants contend that Claims 1 and 7 are not indefinite. Applicants respectfully request reconsideration and withdrawal of this rejection.

b) 35 U.S.C. § 102(b) and (e)

Claims 7-13 and 15 stand rejected under 35 U.S.C. § 102(e), as allegedly anticipated by Bertelo (US 7,015,282). Claims 7, 10-13 and 15 stand rejected under 35 U.S.C. § 102(b), as allegedly anticipated by Brown, et al. (US 4,916,171). Claim 7 of the present invention is recited that the claimed acrylic rubber-modified copolymer having a rubber particle size ranging from 800 to 6,000 Å comprises 5 - 15 parts by weight of a seed polymerized from an alkyl acrylate; 45-75 parts by weight of a core polymerized from an alkyl acrylate (excluding seed); and 10-50 parts by weight of a shell polymerized from an alkyl methacrylate and/or an alkyl acrylate. The technical feature of the present invention is in that this acrylic rubber-modified copolymer having a rubber particle size ranging from 800 to 6,000 Å is used to a rubber-modified styrene-based resins.

Bertelo discloses a core shell polymer with acrylate seed and core and polymethylmethacrylate shell in applicant's amount. Brown *et al.* in example 10 discloses a core shell polymer (seed:core:shell = 5:69:19) containing the applicant's amounts of the respective components. However, the rubber particle size of a copolymer of the present invention is 800 to 6,000 Å, and neither Bertelo nor Brown *et al.* discloses the copolymer having a rubber particle size of 800 to 6,000 Å. If the rubber particle size is below 800 Å, thermoformability is decreased and if it exceeds 6,000 Å, exterior gloss is decreased without the improvement of thermoformability. Therefore, the copolymer having a rubber particle size of the claimed range, i.e. 800 to 6,000 Å improves both thermoformability and gloss necessarily required for an inner cabinet of a refrigerator. Claim 7 contains an element, which is not disclosed in Bertelo and Brown *et al* and is not anticipated nor are the claims which depend from it. Applicants respectfully request reconsideration and withdrawal of this rejection.

c) 35 U.S.C. § 103(a)

Claims 1, 4-13 and 15 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Oshima (US 5,206,299) in view of Gould (US 20040260005). Claims 1-13 and 15 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Kobayashi (US 6,403,683) in view of Gould (US 20040260005). Claims 1-6 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Kobayashi (US 6,403,683) in view of Bertelo or Gould. Applicants respectfully traverse. Applicants reiterate their arguments regarding Bertelo. The object of the present invention is to improve thermoformability and gloss of a styrene-based resin used in an inner cabinet or a door cabinet of a refrigerator. While, Oshima discloses compositions for improving impact strength of the polyphenylene resin and Kobayashi discloses polycarbonate resin composition having excellent resistance to heat and flame retardancy.

As stated in the specification, conventionally, a graft polymer (ASA resin) prepared by an emulsion graft polymerization of a mixture of a vinyl cyanide compound and an aromatic vinyl compound to an acrylic synthetic rubber, has been used in order to improve thermoformability of a resin; however, it does not have a satisfactory appearance characteristics including gloss. Oshima or Kobayashi provides no suggestion or motivation to use the seed-containing core shell polymer of the invention alone or in combination with Gould. Claims 1, 4-13 and 15 are therefore not obvious over Oshima, Kobayashi, Gould or Bertelo alone or in combination. Applicants respectfully request reconsideration and withdrawal of this rejection.

III. Conclusion

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance are requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,
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